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**Date:** August 1, 2012

**Route To:**

**Subject:** Appeal of the Decision Notice and Finding of No Significant Impact for the Morrison Run Project Environmental Assessment, Bradford Ranger District, Allegheny National Forest, Appeal # 12-09-19-0032 A215

**To:** Appeal Deciding Officer, Forest Supervisor Erin Connelly

This letter constitutes my recommendation for the subject Notice of Appeal (NOA) filed on behalf of Appellants Bill Belitskus representing Allegheny Defense Project; Cathy Pedler as an individual and representing Allegheny Defense Project; and Ernie Reed as an individual and representing the Heartwood organization, on the Morrison Run Project, Allegheny National Forest (ANF). District Ranger Macario J. Herrera signed the Morrison Run Decision Notice and Finding of No Significant Impact (DN/FONSI) on May 2, 2012. The legal notice was published in *The Bradford Era* (Bradford, Pennsylvania) May 7, 2012.

My review was conducted pursuant to 36 C.F.R. 215 – “Notice, Comment, and Appeal procedures for National Forest System Projects and Activities.” To ensure the analysis and decision are in compliance with applicable laws, regulations, policies, and orders, I have reviewed and considered each of the Appellants’ issues and the decision documentation submitted by the ANF. My recommendation is based upon review of the Project Record (PR) including but not limited to, the scoping letter, public comments, DN/FONSI, and the Environmental Assessment (EA).

### **Background**

The Morrison Run Project involves actions that address multiple-use resource management goals and objectives including treatments to improve structural conditions, manage late structural stands and conditions, provide quality hardwood products, address insect and disease issues, regenerate or improve oak stands, maintain and enhance transportation systems, reduce sedimentation and maintain, restore or improve soil quality, productivity, and function, provide diverse and specialized habitats across the landscape, restore and enhance stream processes and aquatic habitat diversity, implement non-native invasive plant treatments and maintain or enhance the quality of scenic resources (DN/FONSI, pp. 1-2).

This project was first identified in April of 2010, on the Schedule of Proposed Actions (SOPA) for the ANF. On November 26, 2010, a detailed proposed action was made available to scope the public regarding the purpose and need for the action, and identification of the location and types of activities. The proposal was posted on the ANF website and mailed to 213 parties. Ninety-four responses were received back (DN/FONSI, p. 9). The EA was published on November 4, 2011. Thirty-eight responses (including a response from the Appellants) were received during the 30-day comment period (DN/FONSI, p. 9).



## **Appeal Issues**

The Appellants raised ten general contentions in their NOA of the Morrison Run decision.

The Appellants' issues are addressed here in the order found in the NOA. Several sub-issues are identified and addressed under each general issue heading. Informal resolution efforts with the Appellants were attempted at a July 5, 2012 meeting, however no appeal issues or sub-issues were resolved.

**Issue 1: Forest-wide cumulative impacts.** The Appellants state *“The fact is that the agency decided not to do such a cumulative impact analysis. What the Allegheny did decide to do on the forest plan level was to separate out all oil and gas development and consider that in separate documents. By definition, this means there never has been a comprehensive environmental impact analysis, including cumulative impacts, for all actions considered on the Allegheny National Forest. That is a violation of NEPA. Furthermore, it renders any environmental assessment or other environmental study “tiered” to the Allegheny forest plan EIS deficient, because it is tiering to an incomplete, and thus illegal analysis.”* (NOA, p. 3)

**Response:** Forest-wide cumulative effects analyses of private oil and gas development are discussed in the 2007 Forest Plan Final Environmental Impact Statement (FEIS), the *Programmatic Effects of Private Oil and Gas Activity on the Allegheny National Forest* (USDA-FS 2010a, unpublished) and the *Site-Specific Oil and Gas Development on the Allegheny National Forest* (USDA-FS 2010b, unpublished). These documents describe the probable reasonable and foreseeable oil and gas development (OGD) actions on the ANF. These documents comprehensively address the issues pertaining to private oil and gas development as well as the direct, indirect, and cumulative effects of private oil and gas development on the ANF.

The *Programmatic Effects of Private Oil and Gas Activity on the Allegheny National Forest* describes the programmatic effects of private oil and gas activity on the resources of the ANF. It incorporates information contained in the FEIS for the Forest Plan. It also includes mitigation measures for application to private OGD to maintain surface resource values. As part of the review and analysis, the deep Marcellus shale wells are considered. The document discloses the cumulative effects on all resources within the proclamation boundary of the ANF.

The Morrison Run EA incorporates by reference and does not tier to the *“Programmatic Effects of Private Oil and Gas Activity on the Allegheny National Forest”* and the *“Site-specific Effects of Private Oil and Gas Activity on the Allegheny National Forest”* documents. They present the best available scientific information on the status and projections of private OGD on the ANF and set forth the best available scientific information on OGD environmental effects. These documents are part of the project file and were available to the public during the 30-day comment period.

With regard to cumulative effects within the project area, the EA, Appendix D of the EA and project record document that the Forest has taken a hard look at the cumulative effects in the analysis area and considered the effects of past, present, and reasonably foreseeable actions,

including private oil and gas development. The analysis of effects to resources as a result of the proposed actions is provided in Chapter 3 of the Morrison Run EA. Privately owned oil and gas developments were evaluated in Appendix D of the Morrison Run EA and the potential cumulative effects (the combination of effects from mineral developments, as well as the proposed actions by the Forest Service, and any other activities in the Cumulative Effects Analysis Boundary) were disclosed in Chapter 3 of the Morrison Run EA, by resource.

I find the Responsible Official considered forest-wide cumulative impacts in the Morrison Run decision at the appropriate level, tiering to or incorporating other analyses and incorporating by reference other relevant documents.

**Issue 2: Cumulative impacts on the project level.** The Appellants state *“The agency is also deficient in it's cumulative impact analysis on the project level in a manner very similar to the failure to consider the cumulative impacts on the plan level. The agency failed to give a hard look at whether there are private oil and gas wells in the project area.*

*Yet, listed plainly on the state of Pennsylvania's DNR website private oil and gas wells are listed within the project area. NEPA requires that the lead agency work with state agencies in the preparation of forest plans and Weiss. It should have been a fundamental inquiry to the state about what private oil and gas developments are within the Morrison Run area. Yet apparently, the agency didn't do it. Again, even on the level where the agency is determining significance, a cumulative impact analysis is required. This would require an analysis of actions taken by private parties within the project area. It is a violation of NEPA not to have done such a cumulative impact analysis.”* (NOA, p. 4)

**Response:** Although the Morrison Run Project contains no OGD proposals the effects of such development are both discussed throughout the EA and evident in the project record. Appendix D investigates possible development scenarios and presents a map of existing and foreseeable well locations. The EA considers the cumulative effects of OGD with those of the proposed action in the *Summary of Effects* table in Chapter 2 (pp. 21-29) as well as in individual Chapter 3 sections concerning Vegetation and Forest Health, Wildlife and Sensitive Plants, Non Native-Invasive Species, Soils, Hydrology, Air Quality, Recreation, Scenery, Heritage, and Human Health and Safety (pp. 31-85).

In the *Analysis Framework* discussion on page 33, and again on page 35 of the EA the Forest tiers the analysis to the Allegheny NF Plan, Plan FEIS and Record of Decision (ROD) and the discussion of direct, indirect and cumulative effects contained therein. Additionally, the analysis incorporates by reference a pair of white papers: *Programmatic Effects of Private Oil and Gas Activity on the Allegheny National Forest* (USDA-FS 2010a, unpublished) and *Site-Specific Oil and Gas Development on the Allegheny National Forest* (USDA-FS 2010b, unpublished). Both of these incorporated documents include data from a variety of Pennsylvania Department of Environmental Protection sources including the Bureau of Oil and Gas Management--Wells Information System [Computer Database]. All the above documents are included in the project record and have been disclosed to the public.

On page 22 of the *Response to Comment Summary* the Forest further explains the relevance of these latter two documents to the discussion of cumulative effects:

*These unpublished documents comprehensively address the issues pertaining to private oil and gas development from the Chief's 2008 appeal decision, as well as the direct, indirect, and cumulative effects of private oil and gas development on the ANF. The EA, Appendix D of the EA and project record document that the Forest has taken a hard look at the cumulative effects in the analysis area and considered the effects of past, present, and reasonably foreseeable actions, including private oil and gas development. The cumulative effects upon recreation, water, air, and wildlife have all been specifically addressed.*

In the DN and FONSI the Responsible Official explains how he gave careful consideration to the analysis, applicable laws, the ANF Forest Plan, and public comments to inform his decision. Among the 11 reasons that he chose Alternative 2 he includes on page 7:

*I have taken a hard look at the potential oil and gas development (OGD) and the proposed actions from Alternative 2 and believe that the cumulative effects are not significant (EA Chapter 3, 31-84). I am keenly aware of the ongoing development (and its potential environmental effects) both on the District and across the Forest. We have sought information on future development, and considered the best scientific information on the effects of OGD regarding soil, water, air, wildlife and other surface resources. This analysis is informed by the best available science and field information concerning OGD.*

The PR is replete with evidence that the Responsible Official appropriately considered the cumulative effects of the selected alternative with those of other reasonably foreseeable actions, including OGD, within the Morrison Run project area. I find no evidence supporting the Appellant's claim that the Forest Service did not take a hard look or that the efforts to analyze cumulative effects were insufficient.

**Issue 3: Climate change and scientific uncertainty.** The Appellants state "*There is what could reasonably be described as unprecedented uncertainty regarding the impacts of the proposal on climate change and the climate change impacts on the forest are uncertain enough, and the agency's consideration of this uncertainty so arbitrary and capricious, that the deciding officer should overturn the decision.*" (NOA, p 4)

*"In spite of the fact that the agency is under requirements from the CEQ to consider the significance of the scientific uncertainty of a project, and that the public brought it up repeatedly in public comments, the Allegheny doesn't address climate change at all in the project documents. ... To not address it at all is arbitrary and capricious to say the least. It is negligent and is not in the public interest."* (NOA, p. 5)

**Response:** The Appellants did not provide comments on scientific uncertainty during the scoping or 30 day comment period for the Morrison Run project. This is a new issue to which the Forest did not have a chance to respond. However, the appellant did provide comments on

the following topic, *“The USFA must prepare an EIS to study the proposed action in the context of cumulative effects and climate change”*, during the scoping and 30 day comment period. The Forest responded to their scoping comments stating:

“Climate change effects were considered in the FEIS (FP FEIS, p. 3-83) and the Record of Decision states that ‘the LMRP provides for maintaining a diversity of plant and animal communities that will enhance the resiliency of the forest to respond to these changing conditions’ (FP, ROD, p 24.) . The effects of the alternatives on creating habitat diversity will be analyzed and disclosed in the Morrison Run environmental analysis. The environmental analysis will determine if an EIS is required for the Morrison Run project.” (EA, Appendix B, p. 20)

The Morrison Run EA states that the analysis is tiered to the Forest Plan FEIS (EA, p. 8). Climate change, its uncertainty, and how it is related to potential changes with the forest is identified in the Forest Plan FEIS (FP FEIS, Chapter 3, pp. 3-83 to 3-84.)

The Forest’s management approach to climate change and the scientific uncertainty that surrounds it is stated in the Forest Plan as “provide[s] for maintaining a diversity of plant and animal communities that will enhance the resiliency of the forest to respond to these changing conditions” (FP ROD, p 24.) The “ANF 2007 Forest Plan Context for Climate Change Issues” highlights the Desired Conditions, Management Area Direction, Monitoring and Evaluation as set forth in the Forest Plan that should help ecosystems adapt to climate and other changes. The Purpose and Need of Morrison Run project (EA, pp. 8-11) is tied to meeting the Forest Plan goals, objectives, and desired conditions for the Management Areas in the project area.

**Sub-Issue 3A: Project documentation doesn’t comply with Agency policy.** The Appellants state *“The Forest Service has prepared a document specific to the Allegheny which discusses the agency’s NEPA duties with regard to analyzing the impacts associated with climate change. (Attachment 2) That documents states that Allegheny line officers are aware of the issue, and that cursory discussions of the issue are insufficient to comply with NEPA. If cursory discussions do not comply with NEPA, then NO discussion does not comply with NEPA. Especially considering that the EA does, in a section dealing with air pollution, admits that the project will result in emissions of greenhouse gasses, although they are not referred to in that regard.”* (NOA, p. 5)

**Response:** Attachment 2 is the *“Climate Change Support Material for the Project Level Analysis 8/08”* compiled by the Forest in response to a Forest Plan appeal on this topic. This document points out that the uncertainty related to climate change is discussed in the FEIS (FP FEIS, pp. 83 to 3-84). In addition, the Regional Forester states, “Because there is currently no reliable way to predicting future climate change or its effects, the Plan provides for maintaining a diversity of plant and animal communities that will enhance the resiliency of the forest to respond to these changing conditions....The Plan provides flexibility to use a variety of treatments and an adaptive management approach in order to appropriately respond if and when problems occur” (FP ROD, p. 24). The Revised Plan provides ample management direction in the form of Forest-wide goals...objectives...design criteria...and management area direction...

This direction provides a framework for maintaining a diversity of plant and animal communities and strives to enhance the resiliency of the ANF to respond to changing conditions.”

The Purpose and Need of Morrison Run project (EA, pp. 8-11) is tied to meeting the Forest Plan goals, objectives, and the desired conditions for the Management Areas within the project. The Purpose and Need includes but is not limited to: develop and enhance the seedling, shrub, and herbaceous diversity to improve structural conditions, manage late structural stands and conditions, manage both existing and future forest health by addressing insect and disease issues, regenerate or improve oak stands, provide diverse and specialized habitats across the landscape, restore aquatic habitat diversity, and implement non-native plant treatments that limit introduction or spread of invasives. Each of these Purpose and Need components contributes to maintaining a diversity of plant and animal communities and enhancing the resiliency of the forest. This is accomplished by using a variety of treatments some of which vary by alternative. The effects of these alternatives and their ability to meet the Purpose and Need are disclosed in Chapter 3 of the EA. The Morrison Run project is consistent with the management direction referenced in the Forest Plan and meets the requirements of NEPA.

Air quality analysis (EA, pp. 71-75) focuses on six common air pollutants but does not specifically address greenhouse gases. The analysis includes OGD. The conclusion is that National Ambient Air Quality Standards will be met.

**Sub-Issue 3B: Scientific uncertainty, conflicting science and best available science not considered in climate change.** The Appellants state *“In fact, the Allegheny's climate change discussion document admits that there is great scientific uncertainty regarding this issue, that the agency is under a duty during site specific analysis, to consider the cumulative impact of silviculture, oil and gas, and other activities on the forest, as well as the admissions stated above. (...)*

*How is logging the forest, increasing fragmentation, increasing erosion, decreasing stored carbon, increasing air pollution, all things that have been documented to have a deleterious impact on biodiversity, going to contribute to the forest and the society being able to cope with a more severely and rapidly changing climate? It is antithetical and defies common sense. And, more importantly, there is available science that supports the assertion that the project will have cumulative impacts that will be deleterious to the carbon cycle and help exacerbate climate change.*

*Forest fires themselves do result in carbon loss. A more recent finding indicates that forest fires, regardless of whether it is “prescribed” or not, results in release of carbon to the atmosphere. <http://oregonstate.edu/ua/ncs/archives/2009/jul/forest-fire-prevention-efforts-will-lessen-carbon-sequestration-add-greenhouse-war>; <http://www.sciencecentric.com/news/09070918-forest-fire-prevention-efforts-will-lessen-carbon-sequestration-add-greenhouse-warming.html>*

*In addition, more recent studies have found that even mechanical thinning itself results in a reduction of carbon in the environment. A researcher from Harvard found that thinning in a deciduous forest resulted in reduced stored carbon. (attachment 3) In addition, a very current University of Oregon study found that thinning a forest resulted in more carbon loss than just fire. <http://earthfix.opb.org/land/article/researchers-find-more-carbon-from-forest-thinning/> There are greenhouse gas emissions from the production of oil and gas. Even the oil and gas industry itself admits to that. Yet, the agency doesn't seem too interested in how the cumulative*

*impacts of their actions affect the carbon cycle. They simply don't address it at all in the EA. (...)*

*The CEQ regulations require that the agency consider the significance of the scientific uncertainty of the proposed action. The DN and FONSI for the project say that there is no uncertainty - that they know everything about the impacts of this kind of project - while at the same time totally bypassing an assessment of impacts related to climate change. Their own document tells them that there is great scientific uncertainty involved with this, and that a hard look must be given to the issue. This FONSI is in violation of NEPA for it's conclusion that there is no significance to the scientific uncertainty regarding climate change. (NOA, pp 5-7)*

**Response:** In the “Climate Change Support Material for Project Level Analysis 8/08” the uncertainty related to climate change is acknowledged by the Regional Forester and is discussed in the FEIS (FP FEIS, pp. 3-83 to 3-84). Because there is currently no reliable way of predicting future climate change or its effects, the Allegheny Forest Plan provides for maintaining a diversity of plant and animal communities that will enhance the resiliency of the forest to respond to changing conditions. In the Morrison Run DN/FONSI, the Responsible Official acknowledges that the decision includes consideration of best available science, incomplete information and scientific uncertainty (DN/FONSI, pp. 6, 11).

The following comments were included in the Morrison Run Project Wildlife Report,

“Climate change is a concern of global scope, and there is a great deal of uncertainty regarding the degree and timeframes for geographic shifts of forest communities and species habitat. The contributions of the Morrison Run Project to global climate change are uncertain at best, as are the potential effects of climate change on this area over the long-term. Because there is currently no reliable way of predicting future climate change or its effects at the project level, the ANF Forest Plan provides for maintaining a diversity of plant and animal communities that will enhance the resiliency of the forest to respond to these changing conditions. In order to maintain forest ecosystem resistance and resiliency, and therefore integrity, particularly in the face of uncertainties such as future climates, and insect and disease infestations, the ANF Forest Plan emphasizes sustaining a diversity of forest structures and species composition across the landscape, using a flexible, adaptive approach (USDA-FS 2007a, pp.14 and A-2; USDA-FS 2007c, p. ROD-24). Morrison Run vegetation treatments are designed to be adaptive and contribute towards these Forest Plan goals and desired conditions, particularly that of sustaining a diversity of vegetation patterns and species composition across the ANF landscape.” (PR, Morrison Run Wildlife Report Final, June 2011, p. 9)

Based on information contained in the “ANF 2007 Forest Plan Context for Climate Change Issues” (pp. 6-8), the Forest has identified the current carbon stored and annual carbon sequestration, but does not believe that tracking these numbers is realistic or necessary for a couple of reasons. First, the best available science would indicate that sustainable harvest practices result in net sequestration of carbon over time. Second, there is no reason to believe that the carbon benefits from any alternative selected would be realized. Wood from sources other than the Forest, or other products that are more or less carbon-intensive could easily be substituted.

The articles referenced by the Appellants regarding studies from Oregon were not included in earlier comments they provided on the project, consequently the Forest was unable to address them.

The Forest followed guidelines in “Climate Change Considerations in Project Level NEPA Analysis, January 13, 2009”. The Forest Service acknowledges that the agency currently does not have accepted tools for analyzing all greenhouse gas emissions; nor is it possible to conduct quantitative analysis of actual climate change effects based on individual or multiple projects (p. 5); nor is it essential to a reasoned choice among alternatives (p. 6).

Tools that are currently under development, such as Climate Wizard, the Climate Change Tree Atlas, and the Climate Change Vulnerability Index Tool would be most helpful in identifying the potential effects from climate change that may have relevance to long-term forest planning. The Forest Service is also continuing and expanding its research activities in the area of climate change and carbon sequestration (ANF 2007 Forest Plan Context for Climate Change Issues, p. 8).

Even if the Forest conducted more analysis, this information typically is not critical to the Responsible Official in selecting one alternative over another for projects such as Morrison Run. More important is the consideration of achieving a balance of resource objectives, outcomes, and effects associated with those activities. The direction in the FP provides the Allegheny the flexibility to respond and change through adaptive management, to incorporate the best available science as it evolves over time, and to move forward and manage the Forest. In order to maintain forest ecosystem resistance and resiliency, particularly in the face of an uncertain climate and insect and disease infestations, the Forest Plan emphasizes sustaining a diversity of forest structure and species composition across the landscape using a flexible, adaptive approach (FP, p. 14, A-2, FP ROD, p. 24). The Forest believes this can be achieved through the selected Alternative of the Morrison Run Project.

I find the Responsible Official considered climate change at the appropriate level of detail, followed an appropriate forest-wide strategy in the Morrison Run decision to provide resilient forest conditions best adapted to a changing climate, and complied with NEPA. Based on my review, I find no evidence that the decision was arbitrary or capricious with respect to climate change analysis and scientific uncertainty.

**Issue 4: Analysis and ecosystem services.** The Appellants state “A related issue that the respondents need to consider as part of the economic or cost/benefit analysis is the value of the ecosystem services being provided by the undisturbed forest and how those will be impacted by the authorized action. Ecosystem Services are resources that are provided by the forest as it grows naturally that are beneficial to human health and the environment. (...)”

*If heavy machinery is authorized by the agency to operate on steep slopes with highly erodable soils, those soils can become disturbed and wash into streams and/or reduce carbon at a faster rate than if the land were undisturbed. The size and types of trees, the soils and slopes at the locations where heavy machinery such as log skidders are going to be allowed to operate, the conditions of the soil at the time the machinery is used, and removal of trees which provided a*

*canopy that broke the rain, all can cause significant impacts on the environment. Yet, the agency doesn't want to consider this.*

*Yet, without considering at all the value of these services, which also include such things as oxygen production, CO2 utilization, cleansing of particulate pollution, habitat, and shade, and how clearcutting and other disturbances will impact them, at the same time concluding that the project will provide an economic benefit simply because a few jobs will be created cutting down the trees and hauling them away, without determining and considering the full values of the ecosystem services and how the project will impact them, such a conclusion is not based on all relevant factors and is arbitrary and capricious.*

*The agency is required to consider the direct, indirect, and cumulative impacts of a proposed action, including the economic impacts. In order to give a "hard look" at the economic impacts of this project, the agency must consider the costs and benefits. In order to evaluate the costs properly, it is necessary to have a baseline value on the resources that are proposed for alteration. Only then can the agency know the costs of the action in order to compare it accurately with the benefits. (...)*

*Such information [NOTE: the Greenfire report] belongs in a hard look at the economic impacts of the proposed action, especially since it was brought up in the comments repeatedly. An EA must give a "hard look" at the issue, and the economic analysis in this EA does not even come close to complying with NEPA in that regard. It is admittedly deficient by design. It does not comply with NEPA." (NOA, pp. 7-8)*

**Response:** Neither the *Greenfire* report or the analysis of the impacts to specific ecosystem services: oxygen production, CO2 utilization, cleansing of particulate pollution, habitat, and shade were brought up by the appellants during the Scoping or Comment periods for this project. Thus the Forest was not given the opportunity to address these appeal points during the preparation of project or decision documents.

The Appellants' claim that "the agency is required to consider the direct, indirect, and cumulative impacts of a proposed action, including the economic benefits" and that "[i]n order to give a 'hard look' at the economic impacts of this project, the agency must consider the costs and benefits" The ecosystem services specifically listed by the appellants are "oxygen production, CO2 utilization, cleansing of particulate pollution, habitat, and shade" (NOA, pp. 7-8)

The NEPA CEQ Regulations (40 C.F.R. 1508.14) states: "human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of "effects" (40 C.F.R. 1508.8). This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment."

The NEPA (the Act) goes on to say in Sec. 102(2)(B) . . . “insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations.”

And NEPA CEQ Regulations (40 CFR § 1502.23) also discusses cost-benefit: “If a cost-benefit analysis relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences. To assess the adequacy of compliance with section 102(2)(B) of the Act the statement shall, when a cost-benefit analysis is prepared, discuss the relationship between that analysis and any analyses of unquantified environmental impacts, values, and amenities. For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations. In any event, an environmental impact statement should at least indicate those considerations, including factors not related to environmental quality, which is likely to be relevant and important to a decision.

The ANF “*believe[s] that this project is in the best interest of ecosystem health which is defined through the purpose and need for the project, provided on pages 9 to 11 of the Environmental Assessment. The purpose of the project is to meet these Forest Plan goals and objectives and achieve the desired conditions for the management areas in the Project Area. The analysis is tiered to the ANF Forest Plan and Record of Decision (ROD) (USDA-FS 2007a); and Final Environmental Impact Statement (FEIS) (USDA-FS 2007b). Chapter 3 of the FEIS provides an analysis of the following resources on the ANF and is incorporated by reference into this EA (USDA-FS 2007b): Air; p. 59, Economics; pp. 399-443, Heritage; pp. 380-384, Human health and safety; pp. 419-443, Hydrology; pp. 22-51, OGD; pp. 3-7, Recreation; pp. 296-328, Scenery; pp. 370-380, Soils; pp. 7-21, Transportation; pp. 64-74, Vegetation; pp. 77-179, Habitat; pp. 194-204. Supporting resource analysis for air, soils, vegetation, wildlife and transportation are located in the project record. The Biological Assessment (BA) for Federally Listed Threatened and Endangered Species [EA Appendix C1] and the Biological Evaluation (BE) for Regional Forester Sensitive Species [EA Appendix C2] are provided*” (EA Appendix E p23-24).

The *Greenfire* report referenced by the appellant was a report concerning the programmatic Forest Plan of the Wayne National Forest in southeast Ohio, which is in a different state and ecosystem (unglaciated Allegheny Plateau) than the Morrison Run project. Likewise, the report references a programmatic rather than a site specific project like Morrison Run. It is unclear from the NOA exactly how the appellant feels this document pertains to the Morrison Run project.

The EA (pp85-87) has an Economics section that provides quantitative cost and unquantified information on economic effects to local communities. A formal cost-benefit analysis, optional under 40 C.F.R. 1502.23, was not undertaken in this EA. Minimum standards for project economic analysis are not provided in the CEQ Regulations.

I find that the project does not violate NEPA or CEQ Regulations regarding adequacy of economic analysis.

**Issue 5: Herbicides and endocrine disruption**

**Sub Issue 5A:** *Fails to take a hard look in determining the significance of the project.* The Appellants state “*The EA/FONSI bases its finding of no significant impact on the fact that the herbicides [NOTE: glyphosate and sulfometuron methyl] are registered and legal to use and that exposures will be very low because the closest residences are not right next to the forest. But this does not excuse the agency from taking a hard look at the impacts of these chemicals - both on users of the forest and the full range of wildlife that would be exposed.*

*And basing a finding of no impact on the fact that the chemicals will be diluted by distance from the exposed does not consider all relevant factors. It only considers the exposure to residents in the area, and not to users of the forest. It also does not discriminate in the impacts on those elderly or children that could be exposed by using the forest.”* (NOA, p 9)

**Response:** The Morrison Run EA (p. 8) states that the analysis is tiered to the FP FEIS and relies on those associated documents for addressing issues that are of a broad scope, specifically to eliminate repetitive discussions of issues. The FP FEIS Appendix G contains the risk assessments for herbicides used on the ANF. The comprehensive human health and ecological risk assessments for the ANF incorporates by reference (40 C.F.R. 1502.21) a substantial portion of the analyses done by Syracuse Environmental Research Associates, Inc., (SERA) under contract to USDA Forest Service (FS) (Appendix G of the FP FEIS). The SERA assessments for glyphosate and sulfometuron methyl are more comprehensive and use risk assessment procedures that are consistent with the contemporary approaches used by the Environmental Protection Agency (EPA) for this same purpose. In addition to the SERA documents, the ANF made liberal use of a variety of major reviews that have been developed by or for other federal agencies. These risk assessments were developed using an extensive review of the literature about the effects of these herbicides on people and the environment. They include worksheets that use the most updated scientific data available at the time to calculate hazard quotients, among many other statistics. Forest Service staff at ANF used these risk assessments, and also conducted a literature review for more current studies on these chemicals. The herbicide risk assessments provide specific information about human exposure to herbicides:

- “*The risk characterization for both workers and members of the general public are reasonably consistent and unambiguous. For both groups, there is very little indication of any potential risk at the typical application rates of 0.75 lbs a.e./acre (1.0 lbs a.i./acre) for ANF broadcast and backpack applications, and 1.5 lbs a.e./acre (2.0 lbs a.i./acre) for cut surface applications and backpack applications for invasive species vegetation management*” (FP FEIS Appendix G, p. G1-75).
- “*Under normal circumstances, members of the general public should not be exposed to substantial levels of glyphosate as a result of U.S. Forest Service activities*” (FP FEIS Appendix G, p. G1-51)
- “*On the ANF there are a number of factors that significantly reduce the likelihood of such exposure. Specifically, ANF uses signs to indicate that an*

*area has been treated with herbicide, providing members of the public the option of avoiding such areas and any vegetation (including berries) in or near treated areas. These signs are posted at logical areas of entry to treated areas” (FP FEIS Appendix G, p G1-64.*

The analysis conducted by SERA does consider the risk to workers and the public, including persons of varying susceptibility, under even the unlikeliest of scenarios:

- *“For workers, the highest hazard quotient, i.e., 0.1, results from the upper range of exposure for workers involved in backpack application for invasive species vegetation management, is below the level of concern (hazard quotient, HQ, of 1) by a factor of about 10. The highest hazard quotient (HQ) for any accidental exposure scenario for workers, i.e., 0.17 arises from the upper range of the exposure from cut surface application involving a spill over the lower legs for one hour, is lower than the level of concern by a factor of 6.”*
- *“For the general public two scenarios associated with cut surface applications result in an HQ that is greater than one: accidental direct spray of an unclothed child resulting in an HQ of 2.5 and water consumption from a pond following an accidental spill of 5 gallons of undiluted product resulting in a HQ of 1.5. All other exposure scenarios for the general public result in HQ values that are less than one. The highest HQ from other exposure scenarios is 0.15, which is about 7 times less than the level of concern (HQ of 1). It is the result of the longer-term consumption of contaminated fruit by the general population.” (Final ANF FEIS, Appendix G, pp. G1-1–G1-160)*

Contrary to the Appellants’ assertion otherwise, project design criteria minimize the risk of exposure to private landowners, forest workers and the recreating public by going much further than merely avoiding private lands. The EA states on page 77:

*“In all cases of broadcast herbicide application, the treatment would be applied when there is minimal risk of accidental exposure. Warning signs, maximum wind caps (10 mph), directional spraying (near property lines and trails), landowner notification, timing, and buffers would further minimize accidental contact.”*

Additional standards and guidelines that govern the application of herbicides on the Allegheny can be found on pages 54-59 of the FP, and are included in the PR.

I find the Responsible Official was aware of and considered the potential impacts (including human health risks) of chemical use and that the analysis was adequate.

**Sub Issue 5B: Endocrine disruption.** The Appellants state *“And finally, it totally ignores the impact of endocrine disruption, While one of the most serious impacts is the potential hormone disrupting capability of some of the chemicals. Unlike "traditional" exposure scenarios are based on a theory that the smaller the dose, the lower the risk, the science indicates that these chemicals could be more dangerous at lower doses because at that level they can trick the body*

*into thinking they are real hormones, and cause the body to react in unnatural ways, causing a number of health problems. <http://www.ourstolenfuture.org/newscience/lowdose/lowdose.htm>*

*The endocrine society, a scientific society of specialists in endocrine science, released a statement regarding endocrine disrupting chemicals. (attachment 4)*  
<http://www.ncbi.nlm.nih.gov/pubmed/19502515>

*(...) This scientific society states that “The evidence for adverse reproductive outcomes (infertility, cancers, malformations) from exposure to endocrine disrupting chemicals is strong, and there is mounting evidence for effects on other endocrine systems, including thyroid, neuroendocrine, obesity and metabolism, and insulin and glucose homeostasis.”*  
*The EA avoids addressing the endocrine disrupting impacts of the herbicides. In fact, the word “endocrine” doesn’t even appear in the EA. It should, though, because the herbicides used either have been found to have some endocrine disrupting capability and/or have not been tested.*

*In the study “Glyphosate-based herbicides are toxic and endocrine disruptors in human cell lines,” by Céline Gasniera<sup>a</sup>, Coralie Dumont<sup>b</sup>, Nora Benachoura<sup>a</sup>, Emilie Clair<sup>a</sup>, Marie-Christine Chagnon<sup>b</sup>, Gilles-Eric Séralini ( University of Caen, Institute of Biology, Lab. Biochemistry EA2608, Esplanade de la Paix, 14032 Caen cedex, France <sup>b</sup> University of Burgundy, Lab. Food Toxicology UMR1129, 1 Esplanade Erasme, 21000 Dijon, France), the researchers specifically find that glyphosate does have endocrine disrupting capabilities. Not addressing this at all should render the EA and FONSI null and void for failure to use accurate, best available science. (attachment 3)*

*As far as sulfometuron methyl goes, according to the Pesticide Action Network, there is not sufficient data to conclude whether or not it does have endocrine disrupting capabilities.*  
[http://www.pesticideinfo.org/Detail\\_Chemical.jsp?Rec\\_Id=PC32809](http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PC32809)

*These are a serious errors in the EA. The problems associated with endocrine disruption cannot be wished away through dilution. They often occur at the lowest possible exposures.*

*This is an issue of public health and safety, scientific uncertainty, and of cumulative impacts, all factors that the agency is required to consider in determining whether or not the project is a major federal action. Therefore, the agency is required to give it a hard look in determining the significance of the project. This simply is not accomplished by the EA/FONSI that is flawed and incomplete. The DN, FONSI and EA should be withdrawn to correct these errors.” (NOA, pp. 9-10)*

**Response:** The Appellants claim the ANF has not discussed the potential endocrine disrupting capabilities of glyphosate and sulfometuron methyl, the chemical substances used on the forest. However, the effects to the endocrine system are discussed for both chemicals in the human health risk assessments (FP FEIS Appendix G, pp. G1-24, G1-31, and G1-98) and were also addressed in the response to comments (EA, Appendix E, pp. 17-19, Response #11):

*“The Forest Plan FEIS (USDA-FS 2007b) included an extensive updated review of available literature covering the behavior and toxicology of glyphosate and sulfometuron*

*methyl, and a human health risk assessment for the use of glyphosate and sulfometuron methyl on the ANF (USDA-FS 2007b, Appendix G1). This risk assessment evaluated potential hazards to human endocrine and reproductive systems, and carcinogenic risks. That review concluded that the use of glyphosate and/or sulfometuron methyl on the ANF would result in hazard quotients well below the level of any concern, for both workers that apply herbicides and members of the general public, even if they actually contact the treated vegetation (USDA-FS 2007b, pp. G1-1–G1-4, G1-75–G1-91, and G1-131–G1-142). In short, these risks are negligible.”*

The web link provided by the Appellants above, ([http://www.pesticideinfo.org/Detail\\_Chemical.jsp?Rec\\_Id=PC32809](http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PC32809)), is for metsulfuron-methyl, not sulfometuron methyl. Metsulfuron-methyl is used in the herbicide Escort®, which is not used on the ANF for vegetation management or non-native invasive plant species treatments.

Another website cited by the Appellants (<http://www.ourstolenfuture.org/news/science/lowdose/lowdose.htm>) is for a book that the authors describe as a “*scientific detective story that explores the emerging science of endocrine disruption*”. This book is not a scientific study and would not be representative of “best available science.”

Another study cited by the Appellants (Gasnier et al., 2009, Glyphosate-based herbicides are toxic and endocrine disruptors in human cell line”) does not include any glyphosate herbicides that are used by the ANF, and therefore is not applicable to this project.

The SERA report included in AFP FEIS Appendix G and other supporting documents of the project record remain an accurate depiction of hazard quotients and risks to private landowners, forest workers and recreationists that are associated with the chemicals and application methods described in the Morrison Run EA. The EA and PR show the effects of herbicide, including any endocrine system effects, were thoroughly considered and addressed.

**Sub-Issue 5C: Impacts to amphibians.** The Appellants state “*But these aren’t the only impacts of the chemicals proposed for use by the Allegheny. A university of Pittsburgh study found that roundup herbicide formulations were “extremely lethal” to amphibians.* [http://www.chronicle.pitt.edu/media/pcc050411/sci1\\_pesticide.html](http://www.chronicle.pitt.edu/media/pcc050411/sci1_pesticide.html)

*This study was based on doses that were comparable to those that would occur from standard use. The EA doesn't even mention amphibian fauna, let alone impacts of the authorized herbicide applications on this family of animals. The EA certainly doesn't cite to the University of Pittsburgh study, which found impacts to more than just larvae. Why wouldn't the EA have mentioned that, especially since this research was done by researchers in the same state as the Allegheny, and it was very controversial at the time of publication and received significant publicity and media coverage at the time.”* (NOA, p. 11)

**Response:** This issue of herbicides and amphibians was not brought up during the scoping or 30-day comment periods for this project.

The Appellants reference a University of Pittsburgh study that “*found that roundup herbicide formulations were ‘extremely lethal’ to amphibians*” (NOA p11). The corresponding web link provided by the appellants is to a newspaper article in the PittChronicle, Newspaper of the University of Pittsburgh, which documents an interview with the author of the study (Rick Relyea) and provides no specific details. From the information provided by the newspaper article, the Pittsburgh study only experimented with Roundup® and found the lethal ingredient was not the herbicide glyphosate itself, but rather the surfactant in Roundup®.

The formulation of glyphosate used on the ANF was discussed in response to another question about herbicide use on the ANF: “*Roundup® products are not applied on the ANF. Glyphosate formulated as Accord® and Rodeo®, which do not contain surfactants and are approved for aquatic uses, is applied on the ANF*” (EA Appendix E, p 18). Since the ANF is using glyphosate products that do not contain surfactants, the issues raised by the appellants about the newspaper article and the toxicity of surfactants in Roundup® to amphibians are not applicable.

The University of Pittsburgh study cited by the Appellants does not include any glyphosate herbicides that are used by the ANF, therefore, it is not applicable to this project. The issue of which formulations of glyphosate are used on the ANF was also addressed in the response to comments in the Project Record. In addition, effects of glyphosate formulations to amphibians are discussed in the ANF Forest Plan, to which this project tiers (PF, ANF LRMP FEIS Appendix G2, p G-2-26 - G2-28). I find the appellants issue has no application to the Morrison Run project and that the ANF has adequately reviewed glyphosate formulation impacts to amphibians.

**Issue 6: Inadequate range of alternatives.** The Appellants state “*In the Morrison Run project, the alternatives are basically the same - logging, burning, oil and gas, just in slightly different formulations and amounts. This does not meet the minimum requirements of “reasonable range” of alternatives.*” (NOA, p. 11)

**Response:** The Appellants submitted comments during the 30-day comment period specific to changes made to Alternative 2 (Proposed Action) that are included in Alternative 3. ADP addresses the amount of logging that was dropped in alternative 3 and the reconfiguration of stands to meet comments provided during scoping (ADP comment letter, pp. 4-6). Burning and oil and gas activities for each of the alternatives were not addressed.

Alternative 3 was developed to be responsive to the concerns raised by the public during the scoping period. As noted (EA, pp. 18-19), alternative 3 addresses concerns about temporary openings exceeding 40 acres, treatments along trails, and new road construction contributing to fragmentation. The end result is that logging was reduced by approximately 300 acres (25% less than the Proposed Action). Burning was reduced by 35 acres, about 10% less than in the Proposed Action. There is no oil and gas development proposed with this project. The tables (EA, pp. 18 and 19) clearly display how the proposed action was modified to address the issues and the differences between the alternatives.

The Appellants contend these “...are the only issues addressed from ADP’s comments (and other groups and individual comments) during scoping.... The other issues raised during scoping remain unresolved...” During scoping and the 30 day comment period, the Appellant stated “the Forest Service must consider an alternative that would offset the impacts of oil and gas drilling by reducing other Forest Service actions that impact the environment such as clearcutting and herbiciding. The Forest Service must consider at least one alternative that seeks to offset the impacts of oil and gas development, protects and restores watershed that have been severely altered by oil and gas development, and maintains species viability.” The Appellants did not propose an alternative with specific activities to be considered.

The Forest did not consider an alternative that specifically addressed these comments. In the EA under Alternatives Considered But Eliminated it states that “Several scoping comments suggested that the ANF adopt a management strategy different from the Forest Plan and made recommendations based on that strategy. However, such programmatic decisions are beyond the scope of the project and were not carried forward for further consideration as project-level alternatives” (EA, p. 18). Further rationale was provided by the Forest in the scoping responses (EA, Appendix B, p 4). The Forest responded that the Morrison Run “project does not include proposed private oil and gas development...”, and the appellant’s “suggestion that clearcutting and herbicide use have only a negative impact on the environment is conjectural in nature and not supported by scientific evidence. “

The Forest did analyze the effects of the No-action Alternative and two action alternatives. Table 4. Summary of Effects from Implementing the Alternatives (EA, pp. 21-29), displays the effects on resources which are disclosed in more detail in Chapter 3 of the EA. There are four acres of clearcutting proposed; the effects are disclosed in the wildlife section of the EA (p. 51) in the context of the effects of young forests. Effects of herbicide are addressed in the EA in the following sections: Vegetation and Forest Health (pp. 41-42, 44), Wildlife and Sensitive Plants (pp. 47, 58), Non-native invasive species (pp. 59-62), Hydrology (pp. 66-71), Human Health and Safety (pp.77-78), and Economics (pp. 85-87). There are no adverse direct, indirect or cumulative effects to species with viability concern. Effects on other resources are well within thresholds, are minimal or have no effect.

The NEPA only requires that federal agencies consider “reasonable” alternatives. What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case. CEQ implementing regulations at 40 C.F.R. 1500 direct federal agencies to focus on truly significant issues and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (1501.7(a)(3); 1500.5(d)). Alternatives that are impractical, infeasible, or do not meet the purpose and need set forth for the proposal need not be analyzed in detail. Impacts shall be discussed in proportion to their significance (1502.2 (b)). In a finding of no significant impact, there should be only enough discussion to show why more study is not warranted (1502.2(b)).

Alternatives developed for the Morrison Run Project are designed to meet the Purpose and Need of the project (EA, pp. 8-11). Projects are also developed to be consistent with the goals and objectives for individual Management Areas (MAs) contained within the Allegheny Forest Plan.

These statements include Forest Plan objectives for achieving early structural age class objectives, managing insect and disease issues, regenerating oak stands maintaining and enhancing transportation systems, limit the introduction and/or introduction of nonnative invasive plant species and providing diverse and specialized habitats across the landscape (EA p.9-10).

An adequate range of alternatives has been considered based on the purpose and need for the project and the comments received. Alternative 1 (no action) does not propose any activities and does not achieve the Purpose and Need for the project. Alternative 2 was designed to meet the Purpose and Need for the project. Alternative 3 was developed in response to comments from the public regarding temporary openings exceeding 40 acres, effects of vegetation treatment along trails and new road construction contributing to fragmentation. A summary of effects from implementing the three alternatives is at EA Table 4 (p. 21).

I find the Responsible Official considered a reasonable range of alternatives given FP direction, the Purpose and Need for the Project, and the issues identified during the scoping period. The three alternatives considered meet the intent of NEPA and CEQ.

**Issue 7: Indiana bat and white nosed syndrome.** The Appellants state *“The agency is required under the CEQ NEPA regulations to consider the significance of the impact of the proposal on any endangered species. How can the agency conclude that degrading Indiana bat habitat, exacerbating the carbon content in the atmosphere and thus promoting climate change, which could be having an impact on the hibernacula where the disease [white nose syndrome] is striking, and releasing additional toxins into the atmosphere isn't going to have a potentially significant on the species? Not even mentioning the disease in the EA is certainly not a "hard look" at the issue. Appellants believe this is a significant issue, and that inflicting additional harms to any Indiana bats is a major action. A FONSI which is based on not even mentioning this issue is not in compliance with NEPA.”* (NOA, p. 11)

**Response:** The FS Manual 2600, Chapter 2670 provides policy and direction for threatened, endangered, and sensitive plant and animal management. Departmental Regulation 9500-4 directs the FS to manage habitats to maintain viable populations, assist in the recovery of endangered species and avoid action that may cause a species to become threatened or endangered. The Endangered species Act of 1973, as amended (16 U.S.C. 1531 et seq.) provides direction to the Forest Service to conserve threatened and endangered species, to insure that actions do not jeopardize the existence of the species or adversely modify or destroy habitat. *“This project is also in full compliance with 36 CFR 22 [and], the Endangered Species Act”* (DN/FONSI, p. 13).

*The effects analyses for this site specific proposal are tiered, as appropriate, to the programmatic EIS for the revised Plan (e.g. cumulative effects analysis)”* (DN/FONSI, p5). Determinations for the Indiana bat *“are anticipated to be non-significant with implementation of ANF Forest Plan standards and guidelines (EA, Appendix C1). These project level activities and determination are within the level of actions analyzed in the biological evaluation (BE) for the ANF Forest Plan. A concurrence letter on the BE, dated January 31, 2007, was received from the U.S. Fish and Wildlife Service”* (DN/FONSI p 12). Any *“potential harm or harassment to*

*the Indiana bat is reduced with the implementation of Forest Plan standards and guidelines (USDA-FS 2007a, pp. 116-118)” (EA Appendix C1, p21). A mitigation measure beyond the Forest Plan Standards and Guidelines for the Morrison Run project was also included: “[t]o minimize potential impacts to possible Indiana bat roost trees located on sites proposed for burning, slash would be pulled away from potential snag and live trees with sloughing bark prior to burning. Removal of fuels around potential roost trees would reduce flame height and heat intensity around these trees” (EA, p. 20).*

Within the Morrison Run Project, the federally endangered Indiana bat has *“suitable habitat, but [its] presence [is] no documented in the project area”* (EA Appendix C1 pp. 7-8). *“A ‘may affect, not likely to adversely affect’ determination is made for the Indiana bat for both alternatives [Alternatives 2 & 3] based on the analysis of direct, indirect, and cumulative effects. The project will not modify or destroy critical habitat or jeopardize the continued existence of the species”*. This conclusion was based on the rationale that: (1) *“suitable roosting and foraging habitat will continue to predominate across the landscape as a result of implementation of either of these alternatives [Alternative 2 and 3]”* (EA Appendix C1, p 20); (2) *“the majority of the forested landscape within the project area and across the ANF will continue to provide suitable to optimal roosting (including maternity roosting) and foraging habitat for the Indiana bat”* and; (3) *“Forest-wide surveys have shown that Indiana bat use of the ANF has been very rare and no female or maternity roosts have been identified”* (EA Appendix C1, p. 21).

The Appellants contend *“the EA doesn’t even mention white nose syndrome”* (NOA, p. 11). This claim of no mention of the disease in the EA is false. White nose syndrome (WNS) is discussed in the Biological Assessment (BA) which is Appendix C1 of the EA. *“In January 2009, WNS was found for the first time in Pennsylvania. In March 2009, a second review was conducted on the most recent scientific information. The analysis and findings of this review are found in the WNS – Report of New Information (USDA-FS 2009). As of February 2011, no WNS has been confirmed in northwest PA”* (EA Appendix C1, p 13); this area includes the ANF. Likewise, WNS is discussed in the DN for the Morrison Run project: *“A review of new information has been prepared (February 2009) and added to the project file pertaining to the white-nosed syndrome that is affecting bats. The findings in the review include the following: (1) no correction, supplement, or revision to the environmental documentation for the ANF Forest Plan or an amendment of the ANF Forest Plan is necessary at this time; (2) no additional work will be required for existing project analyses tiered to the analysis found in the ANF Forest Plan; (3) the project level analysis is sufficient at this time; and (4) there is no change in the listed determination for the Indiana bat”* (DN/FONSI, pp. 12-13).

The Appellants claim the agency *“could be having an impact on the hibernacula where the disease [white nose syndrome] is striking”* (NOA, p 11). However, the BA notes that *“the ANF does not have any known Indiana bat swarming habitat or hibernacula and is not located near any large concentrations of Indiana bats”* (EA Appendix C1, p 12). Since there is *“no designated critical habitat for federally threatened or endangered species on the ANF”* (DN/FONSI, p 12), the ANF has no Indiana bat hibernacula, and the ANF has no WNS disease; the Appellants’ claim of agency actions having an impact on hibernacula of the federally endangered Indiana bat is unfounded.

In regards to WNS, The BA also states (EA Appendix C1, p. 13) *“Until causal factors and effective treatments [of WNS] are identified, the ANF will continue to protect cave habitat (cave closure order signed 6/1/2010 on ANF) and manage summer habitats to provide high quality environments that help all bats find adequate food, water, cover and roost sites to survive and successfully reproduce on the Forest”*. The Responsible Official (DN/FONSI, p 7) states *“that the cumulative effects of the treatments planned in this project are consistent with and do not contribute in some unanticipated way to the cumulative effects analyzed in the WNS review of information.”*

In the Response to Comments on management impacts on Indiana bat, WNS was also addressed: *The following Mitigations for Bats would be implemented: 1) Implement Forest Plan Indiana bat S&Gs (USDA-FS 2007a, pp. 81-82, USDI-FWS 2007) in order to minimize potential harm or harassment to these species and to retain key habitat components on the stand and landscape level, and 2) Forest-wide monitoring for the Indiana bat as well as other bats will continue every three years as established in the Forest Plan. In addition, annual monitoring via acoustic transects will continue to gather data for all foraging bats across the Forest. Over time, this data may aid in measuring the effect of White Nose Syndrome (WNS) on bat distribution and abundance at the landscape level’* (EA Appendix E, p. 19).

I find the ANF considered management actions and WNS on Indiana bats in the BA (Appendix C1 of the EA), and in Response to Comments (Appendix E of EA), and it was determined that the project would not significantly impact the Indiana bat.

**Issue 8: Significant cumulative impacts from burning herbicide treated wood.** The Appellants state *“Just a brief perusal of the EA shows that are a number of impacts of the project which will act together to provide a significant cumulative effect. The project will impact wildlife, the air, water, carbon storage, historical and cultural resources, and recreational resources. These include hundreds of acres of clearcutting and other even aged logging, burning, herbicides, and many miles of road construction and reconstruction.*

*As has been stated previously in this appeal, NEPA requires that the agency look at the impacts of all of its proposed actions in combination. If multiple activities are authorized in a given area, such as logging, burning, and road building, then the agency must consider what the combined impact of all of these actions are on that particular area. It doesn't comply with NEPA to just list individual impacts and then make conclusory statements about how minimal the cumulative impacts are for that particular resource or action.*

*One more good example of this is applying herbicide to vegetation and then burning it. There are emissions of contaminants from the herbicides in the smoke from such fires. (see, for example <http://www.springerlink.com/content/x1220763271140w7/> ). But in addition, there would be impacts to carbon storage, water quality, canopy, fragmentation, and recreation. Where in the EA is this analysis provided? In fact, it isn't, and it isn't to found in the forest plan EIS.”* (NOA, p. 12)

**Response:** The Appellants assert that the selected alternative contains impacts to wildlife, water, air, carbon storage, recreation, and cultural resources that will combine to create unspecified cumulative impacts. In fact, the EA lists the effects of the various alternatives on

indicator measures in the Table 4, beginning on page 21. Table 12 establishes the spatial and temporal boundary for the *Environmental Consequences* discussion beginning on page 40. These discussions examine the effects, including the cumulative effects on wildlife, water, air, recreation, cultural resources and a half-dozen other resources (EA, pp. 40-87). Supporting documents in the project record discuss climate change in general and carbon sequestration in particular (*Climate Change Support Material for Project Level Analysis* 8/08).

Contrary to the Appellants' assertions, the Responsible Official explains in the FONSI how he considered the direct, indirect and cumulative effects of the proposed actions (FONSI pp. 4-5), ensured consistency with environmental statute (FONSI, pp. 10-14) and weighed the project benefits to inform his decision to select Alternative 2:

*Based on my experience, input from the public and the Interdisciplinary Team, a review of the effects discussion, and knowledge of local conditions, I find that the long-term improvement in forest health and resilience, as well as improvements to other multiple-use resources such as recreation, soils, water and wildlife outweigh the short-term, localized effects of some of the activities. (FONSI, p.4)*

*The size and nature of this project is typical of other multiple-use management projects on this Ranger District. This project does not involve unusual or unique treatments or methods. New road construction is limited to providing access to treat stands per ANF 2007 Forest Plan objectives and to correct a safety issue. The effects of the common silvicultural treatments used here have been observed in past actions and are well-documented in monitoring reports (Project Record) and through field work. (FONSI, p. 10)*

*...Both Benefits and adverse effects have been considered in the analysis. Benefits of this project were not used to offset adverse impacts and adverse impacts of this project are not significant even when separated from benefits (EA, pp. 21-85). (FONSI, p. 10)*

I find that the EA and supporting documentation include a detailed determination of effects, including cumulative effects, and that the Responsible Official appropriately applied the factors listed in 40 CFR 1508.27 in his consideration of their significance.

Concerning the more specific subject of the effects of smoke generated from prescribed burning activities, the Appellants maintain that smoke from prescribed fire will combine with pesticide residues to present a cumulative impact not addressed in the analysis. This issue is mitigated by direction in the Allegheny Forest Plan where on page 70 it states that “prescribed burning shall not occur until at least 180 days have elapsed since herbicide application”. The basis for this interval is derived from Appendix G of the Forest Plan FEIS which includes a discussion of burning areas that have been treated with glyphosate. The foliar half-life of glyphosate is from 1.6 to 46 days and due to the Forest Plan standards, burning would not occur until 180 days after herbicide application. By following these criteria, SERA concludes in their analysis that there is no evidence to suggest that toxic levels of glyphosate are likely to be encountered as a result of burning operations (Forest

Plan FEIS Appendix G, p G1-75). Page 20 of the Morrison Run EA contains additional mitigation measures to limit public exposure to smoke from prescribed burning. On page 74 the EA explains that smoke emissions are not expected to exceed air quality standards.

The Appellants also provided a link to a journal article without citing the study. The correct citation for the article is: Bush, P.B., D.G. Neary, C.K. McMahon, and J.W. Taylor, Jr. 1987. *Suitability of Hardwoods Treated with Phenoxy and Pyridine Herbicides for Use as Firewood*. Archives of Environmental Contamination and Toxicology. Vol. 16, No. 3. pp. 333-341. This article discusses herbicides that are not used on the ANF. This study also discusses burning herbicide-treated wood as firewood in an indoor setting, and does not pertain to the prescribed burning proposed in the Morrison Run project.

I find that the EA appropriately analyzed the combination of herbicides and burning by incorporating Appendix G of the FP FEIS by reference into their analysis, as well as following prescribed burning Standards set forth in the AFP.

**Issue 9: Fragmentation.** The Appellants state *“It is well settled that fragmenting the forest has a deleterious impact on the forest ecology. Where in the EA does it identify the contiguous forest blocks in the area and how they will be fragmented? What species are occupying these areas now, and what are the territories of such animals? The EA makes conclusory statements about how Management Indicator Species won't be impacted or will be benefitted, but in regard to the forest interior species, provides no data or studies to back up the claims.*

*For example, species that occupy the project area have territories. They utilize territories to mate and breed, for migration, and in winter. These territories favor certain habitats. Fragmenting those habitats adversely affects those species. It is well settled science that the smaller blocks of contiguous habitat that exist, the less biodiversity can be expected.*

*In fact, the agency admits that the project will result in increased fragmentation and decreased contiguous forest. It admits that it will cause the reduction of certain species, but doesn't go into detail which ones will be the ones adversely impacted, and whether or not their viability will be impacted.*

*This is one more significant impact that needs the detailed look of an EIS.”* (NOA, p. 12)

**Response:** The Appellants brought up the issue of fragmentation and that it will “*certainly threaten habitat for species like the Goshawk, Cerulean Warbler, and others which need large areas of un-fragmented forested habitat*” (Comment 4-E, EA Appendix E, p 9). The Forest response was that the “*Morrison Run project record documents extensive field work and resource survey efforts undertaken to understand and describe the potential environmental effects of the proposed actions. Survey information for Federal Threatened and Endangered (T&E) species, Regional Forest Sensitive Species (RFSS), Management Indicator Species (MIS), species with viability concerns, etc. can be found in the Appendix C: project BE and project BA, and the wildlife report project file. Determinations for Federally Threatened, Endangered, and Candidate species and for RFSS are listed in the EA, BA, and BE. The potential effects to wildlife*

*species are analyzed in Chapter 3 of the Morrison Run EA and also in the Appendices (Biological Assessment and Biological Evaluation). In addition, the Morrison Run project record provides the scientific data and analysis to support the EA. The decision documentation (DN/FONSI) incorporates the analysis set forth in the EA and is informed by the specific discussions, by resource, included in the EA and referenced documents in the project record” (Forest Service Response #3, EA Appendix C, p. 9).*

*The Responsible Official noted that during scoping “Three issues were identified: temporary openings exceeding 40 acres, effects of vegetation treatment along trails, and new road construction contributing to fragmentation. These issues were considered in the development of Alternative 3 (See Appendix B to the EA). Alternative 3 was fully analyzed, and the potential effects and were disclosed in Chapter 3 of the EA. The results were compared to the proposed action (Alternative 2), as well as the no action alternative” (DN/FONSI, p 9).*

*The Appellants ask “[w]here in the EA does it identify the contiguous forest blocks in the area and how they will be fragmented?” (NOA p12). The ANF summarized the fragmentation potential of the three alternatives analyzed in the Morrison Run project in “Table 16. Summary of fragmentation in cumulative effects analysis area” (EA p 53) which identified that “the differences among the alternatives [action and no action] in total core habitat area and largest patches of forest habitat are minimal (differences < 2.5%)” (EA, p. 55).*

*The Appellants ask “[w]hat species are occupying [Morrison Run project] areas now, and what are the territories of such animals?” (NOA, p12). The ANF identified that no federally threatened, Endangered or Candidate Species were known to occur in the project area, but did analyze the Indiana Bat “because there have been Indiana bats identified on the forest and there is suitable habitat in the project area” (EA, p 56). “The life history, population trends, threats, and habitat status related to the Indiana bat is located in the ANF Biological Evaluation (Forest BE, pp. 79-105)” (EA Appendix C1, p 12). “A determination of ‘may affect, not likely to adversely affect’ was reached for the Indiana bat. Potential effect to threatened or endangered species and their habitat are anticipated to be non-significant with the implementation of ANF Forest Plan standards and guideline (EA, Appendix C). These project level activities and determination are within the level of action analyzed in the biological evaluation (BE) for the ANF Forest Plan. A concurrence letter of the BE, dated January 31, 2007, was received from the U.S. Fish and Wildlife Service” (DN/FONSI, p. 12).*

*“At the time of analysis, the [Regional Forester Sensitive Species] RFSS list was under revision. Therefore, the Biological Evaluation (Appendix C2) included the species listed in the Forest Plan as well as those proposed for addition to the list. Of the 89 total species, 13 have occupied habitat in the project area, 52 have suitable habitat but species presence is undocumented and 24 species have no suitable habitat in the project area” (EA p56). Ten of the 13 species known in the project area were currently RFSS: “bald eagle, northern goshawk, osprey, channel darter, gilt darter, northern flying squirrel, American ginseng, butternut, thread rush, timber rattlesnake” (EA Appendix C2, Table 1; pp. 7-8) and three were proposed species to be added to the RFSS list: “little brown bat, northern myotis, great-spurred violet” (EA Appendix C2, Table 7, pp. 44-45). Analysis for these 13 species was completed and found that implementation of Alternatives 2 or 3 “may impact individuals, but will not cause a trend toward federal listing or loss of*

viability” (EA Appendix C2, Table 8, pp. 57-59). Details on habitat requirements of these species are discussed for each species in the Biological Evaluation (BE), Appendix C2 of the EA. The ANF has also taken other steps to protect the bats that were added to the RFSS, because “*widespread recreational use of caves and disturbance caused by humans during the hibernation posed the greatest known threat to the northern myotis (as well as little browns). In 2009 the ANF issued a cave closure order in a regional effort to prevent the spread of WNS (USDA-FS 2009)*” (EA, Appendix C2 p. 45).

“*Eleven species not on the RFSS list are considered as species with viability concerns on the ANF*” (EA p 56) of which five are documented in the project area. The species documented are: “*black-throated blue warbler, golden-winged warbler, great blue heron, red-shouldered hawk and raven*” (PF, Wildlife Report, Table 11, p 32). *The analysis of these species and their habitats indicates that there would be no adverse direct, indirect or cumulative effects to these species from the proposed activities (Wildlife Report, project file). Although all alternatives would result in slight increases or decreases in different habitat types within the project area, following Forest Plan standards and guidelines during implementation of the proposed activities would minimize effects to individuals and protect habitat for these species (USDA-FS 2007a, pp. 20 and 80-88)*” (EA, p. 56).

“*Five [Management Indicator Species] MIS were identified in the Forest Plan to evaluate the effects of management on major categories of wildlife habitat*” (EA p 56) of which four are documented in the project area: “*northern goshawk, timber rattlesnake, cerulean warbler and invertebrate species with aquatic life stages*” (EA Table 17 p57). “*The northern goshawk, timber rattlesnake and several invertebrate species with aquatic life stages are also RFSS*” (EA p 56) and were analyzed in the Biological Evaluation (BE), Appendix C2 of the EA, and discussed above. “*Table 17[EA p57] lists these species, the habitats they represent and their status in the project area. For Forest-wide information, refer to pages 3-230 to 3-247 of the FEIS (USDA-FS 2007b )*” (EA p 56). The cerulean warbler is the one MIS documented in the project area that is not an RFSS. A description of cerulean warbler habitat needs, monitoring of past habitat use and potential impacts of the Morrison Run project are discussed in the Wildlife Report, and find that “*[o]ptimal habitat increases under Alternative 2 and 3 compared with Alternative 1 by 2017. By 2031 suitable low density habitat is slightly increased over the highly stalked suitable habitat with no documented use. Overall, there is a slight improvement to the preferred nesting habitat, but the greatest contribution to sustainable cerulean warbler habitat is the maintenance and improvement of the oak type forest*” (PR Wildlife Report, pp. 23-24).

I find the Responsible Official was aware of and considered the potential impacts of fragmentation by creating Alternative 3 in response to the issue and doing a full analysis of fragmentation in the EA. Likewise, the impacts of proposed implementation actions were fully analyzed for federally endangered and threatened species, Regional Forester Sensitive Species, Species of Viability Concern and Management Indicator Species known to occur within the project area.

**Issue 10: Optimality and Appropriateness Analysis:** The Appellants state “*NFMA requires that the respondents only clear-cut when they find that it is the "optimum" method for meeting their goals, and that they only use any other even aged logging technique when it is "appropriate." However, the Decision Notice fails to make the requisite determinations and explanations as to why they clear-cutting and shelterwood logging authorized under the DN is optimum and appropriate. Without such determinations and explanations, the DN does not comply with NFMA.*” (NOA, p. 13)

**Response:** The Appellants assert that the DN fails to make the requisite determinations concerning the “optimality” and “appropriateness” for the timber harvest methods selected in Alternative 2 per the requirements contained in the National Forest Management Act. In fact, the DN/FONSI includes a discussion of National Forest Management Act requirements on pages 13 and 14 where it is listed first among the section containing *Findings Required by Other Laws*. The discussion on these pages plainly illustrates why the forest elected to use shelterwood and clear-cutting silvicultural prescriptions to achieve desired resource objectives which include the elimination of disease, retention of oak forest types and the maintenance of important habitat characteristics (EA, pp. 9-10).

The selected Alternative includes 1,339 acres of timber harvest that will utilize even-aged management practices (shelterwood) because they best promote retention of the oak forest type and create early successional structural habitat benefitting a suite of wildlife species requiring these vegetal attributes. These are goals of the Allegheny Forest Plan (USDA-FS 2007). Meanwhile, those species requiring conditions typical of a more mature forest will be expected to benefit from the 149 acres of uneven-aged management selected to improve late-structural habitat. Under the selected alternative 85% of the project area is retained in a mature forest age class (51-150 years old) (EA, p. 47).

Concerning these treatment methods the DN/FONSI states on page 4:

*“The acreage of the project, the treatment methods chosen, and the project location were all given thorough consideration in the project development. The need for action at this time is apparent from field observations in the project area, as well as the field and survey work completed by the Interdisciplinary Team.”*

On page 5 the DN/FONSI states:

*“Providing for a diversity of plant and animal communities and protecting forest health is at the heart of this project. The proposal strives to promote a diverse hardwood forest community composed of a mix of hardwood forest tree species and does not place economic factors or black cherry commercial timber production above other multiple-use resource objectives. Wildlife habitat considerations for forest interior-dependent wildlife species, as well as creation of early successional habitat, were key concerns during project development.”*

The EA describes the need for a regeneration harvest to create temporary openings larger than 40 acres on seven separate sites in an effort to treat areas affected with beech bark disease. The DN/FONSI, on page 7 discusses this decision and describes the materials, including a map and a description of these treatments that were included with the scoping documents. These temporary openings have been determined to be the optimum method to regenerate beech stands which are understocked due to beech bark disease, and in danger of converting to a beech “aftermath forest”. Most of the stands proposed for shelterwood seed cut have been impacted by beech bark disease with approximately 20% of these areas having experienced severe mortality of the beech component (EA, p. 41). Delaying treatment of these infected stands by limiting treatment size to 40 acres will likely promote further decline in both species richness and regeneration (DN/FONSI, p. 14).

Clear-cutting was determined to be the optimum silvicultural practice available to regenerate the 4 acres of aspen proposed for treatment in the project: “due to aspen’s shade intolerance, its fast growth rates in full sunlight, and its reliance on sprouting to reproduce” (DN/FONSI, p. 13).

I find that the EA and the DN/FONSI for the Morrison Run project adequately explain the rationale for the silvicultural prescriptions chosen to meet the objectives of the project.

### **Recommendation**

After reviewing the analysis and supporting documentation for the Morrison Run Project and considering each of the Appellants’ issues, I recommend that District Ranger Macario J. Herrera’s DN/FONSI of May 2, 2012, be affirmed. I find no violation in law, regulation or policy related to the Appellants’ concerns.

/s/ Tim Pohlman  
TIM POHLMAN  
Appeal Reviewing Officer  
District Ranger

cc: Patricia R Rowell